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OBJECTIVES: To explore the major determinants associated with treatment switch in CHB treated patients from a cohort across 5 EU countries. **METHODS:** Multivariate Cox proportional hazard regression model was used to analyze determinants of treatment switch by a backward selection. Data analyzed were derived from an observational cohort study, consisting of diagnosed adult CHB patients managed in outpatient clinics, prospectively enrolled from March-2008 to October-2009, in France, Germany, Poland, Romania and Turkey. Patients with HIV and/or HCV co-infection and hepatocellular-carcinoma or liver failure at baseline were excluded. Factors considered candidates to enter the multivariate model (with univariate test at p-value<0.20) were: country, ALT level before switch, VL level before switch, liver biopsy test performed, Hepatitis B e-antigen status, CHB status, age and agent received before switch. The statistical criteria for exclusion at each step of the model building process is p-value>0.05. Results are presented as hazard ratio(HR), [95% confidence interval] and p-value. **RESULTS:** Data were collected for 1267 patients followed for up to 2 years with a median (months) ranging from 12.5 (Poland) to 14.5 (Romania). A total of 567 patients received a treatment at baseline and were included in the model to analyze the determinants of treatment switch. Time on last treatment before switch was 1.9 years (median). There is a higher probability to treatment switch in France (5.19;[1.76-15.24];p=.0027), Germany (4.80;[1.60-14.39];p<.0050), and Poland (4.42;[1.41-13.83];p<.0106) compared to Turkey. No statistically difference in Romania. There is a higher probability to treatment switch when VL≥2000IU/ml (4.35;[2.52-7.52];p<.0001) compared to Undetectable and VL<2000IU/ml. Analysis of interaction showed that VL when associated with a performed liver biopsy test increase probability of switch. **CONCLUSIONS:** This observational cohort identified VL level as a major clinical outcome driving the treatment switch decision in CHB treated patients. Results were statistically different across countries, possibly due to different health care policies.

PIN81

PERCEPTIONS OF HOSPITAL PHARMACISTS REGARDING EFFECTIVE ANTI-MALARIAL DRUG MANAGEMENT IN PAKISTAN. A QUALITATIVE INSIGHT

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OBJECTIVES: To explore the perceptions' of hospital pharmacists towards drug management and reasons underlying stock outs of anti-malarial drugs in Pakistan. **METHODS:** A qualitative study was designed to explore the perceptions' of hospital pharmacists regarding drug management and irrational use of anti-malarial drugs in two major cities of Pakistan, namely, Islamabad (national capital) and Rawalpindi (twin city). Semi-structured interviews were conducted using in-depth interview guides to collect data. Sixteen interviews with hospital pharmacists working at different public and private hospitals in Islamabad and Rawalpindi were conducted at a place and time convenient for the respondents. Interviews, were audiotaped and transcribed verbatim, were evaluated by thematic content analysis and by other authors' analysis. **RESULTS:** The interviews with hospital pharmacists focused on three major components i.e. drug management, contributing factors in stock-outs, role of hospital pharmacist and suggestions for improvements. Thematic content analysis of these components yielded further themes.1,2) Prevalence and current scenario of malaria treatment practices 3) Major contributing factors towards irrational treatment practices for malaria 4,5,6) Role of health care system and hospital pharmacist and influencing factor effective drug management and treatment practices 5 7) Collaborative working of doctors and pharmacists 8) Role of Malaria Control Program 9) Management of anti-malarial drugs in the health care facilities 9,10,11) Current scenario, contributing factors and strategies to improve in anti-malarial drugs stock outs. **CONCLUSIONS:** The current study showed that all the respondents in the two cities agreed that hospital pharmacist has failed to play an effective role in efficient management of anti-malarial drugs stock-outs.

PIN82

THE MACRO-ECONOMIC IMPACT OF REDUCING MALARIA: AN APPLICATION OF A DYNAMIC GENERAL EQUILIBRIUM MODELLING TO GHANA

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OBJECTIVES: Cross-country regressions have been used to assess the relationship between malaria and economic growth. However, more detailed estimates of the broad economic impact of malaria interventions targeting children i.e. impact at household level and per region are relevant to donors and policymakers. Therefore, we simulate the impact of reducing malaria morbidity and mortality on the Ghanaian economy utilising a micro-based approach. **METHODS:** A multi-sector, multi-agent, dynamic-computable-general-equilibrium (DCGE) model is developed and linked with health models that estimate: (1) regional demographics with cohort-component projections for fertility, mortality, migration, and urbanization; (2) labour indices for production and productivity of parents with sick children or adults affected by malaria during childhood. We leave out any additional effects (tourism spending, foreign investment, etc.). The model is calibrated to Ghana, with households disaggregated by five epidemiological malaria regions, urban-rural divide, and income level quintiles. Hypothetical intervention scenarios are simulated reducing malaria prevalence by 50%, for children <5years with varying degrees of coverage. **RESULTS:** Average yearly GDP would rise by 0.8% above baseline. Due to regional heterogeneity in labour resources, preferences, and malaria prevalence, the income-benefit per child covered by the intervention ranges between $1-$14, $5-$50 and $66-$540 (2007 US Prices) with national averages of $8, $34 and $300 at y1, y15 and y25 respectively. We also find that malaria prevention contributes more to income and consumption in high prevalence regions, and slows down the rise in income inequalities under the limitation that the model does not include the informal sector. **CONCLUSIONS:** Investing in malaria prevention in children can have an observable impact on the wider economy and may contribute to poverty reduction. We contribute with: (1) a public economics approach to analysing malaria impact on economic growth (2) viewing effects at national, regional, and income level dimension; (3) a suitable method for other diseases.

PIN83

NATIONAL IMMUNIZATION TECHNICAL ADVISORY GROUP (NITAG) DECISION-MAKING PROCESS FOR VACCINE RECOMMENDATION: OVERVIEW AND ANALYSIS

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OBJECTIVES: In Europe, the time between regulatory approval and population access for vaccines exceeds that for other pharmaceutical products. This difference has been shown to be linked to the recommendation phase, where NITAGs assess new vaccines before implementation into vaccination programmes and coverage by health insurance. The objective of this research was to study and compare NITAGs' policies and decision-making processes in 9 European and 4 non-European countries. **METHODS:** We developed a standardized extraction grid with 25 items covering: overall NITAG organization, existence of terms of reference, member's appointments and profiles, meeting organization, decision analytic framework, processes and communication. The research was conducted by review of the NITAG or mother agency websites, and a literature review and direct contact with a NITAG member by email, and when possible by telephone interview. **RESULTS:** Information was rarely available online or through public sources. Direct contact was necessary to obtain information for most countries. Only 2 EU countries (and the 4 non-EU countries) have formal terms of reference. In most cases defined missions do not fit to actual ones. Numbers (8 to 48) and backgrounds of experts varied dramatically. 69% of NITAGs have analytical frameworks, 8% have publicly-opened meetings, 15% publish meeting agendas, 31% publish minutes and 85% publish recommendations. The vast majority have no defined timelines for decision-making. **CONCLUSIONS:** Wide variability in organization processes and communication is seen between NITAGs. In Europe, NITAGs with few terms of references and no communication of meeting agendas or minutes suggests the lack of a structured and transparent decision-making process. There is an obvious need for improving the vaccine decision-making process. Some interesting initiatives from individual NITAGs could be taken as examples and assembled together for a benchmark exercise. Recommendations for best practices in vaccine decision making are critical to public health and will be discussed.

PIN84

TRENDS IN PREVALENCE OF ANTIBACTERIAL DRUG USE AMONG DUTCH CHILDREN FROM 2005 UNTIL 2010

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OBJECTIVES: Systemic antibacterials are frequently used by children. We assessed trends in prevalence of antibacterial drug use among Dutch children from 2005 until 2010. **METHODS:** The PHARMO Record Linkage System, containing amongst others outpatient pharmacy dispensing data of ~3.2 million inhabitants in the Netherlands, was used for this study. For every year in the study period 2005-2010, the number of children aged 0-18 years with any dispensing of systemic antibacterials and per subtype was counted and extrapolated to the Netherlands, standardized for age and gender. Prevalence of use was reported per 10,000 children and was stratified by calendar year, age group (<2 years: infants and toddlers, 2-11 years: children, 12-18 years: adolescents) and gender. **RESULTS:** The prevalence of antibacterial drug use decreased 1.1-fold among infants and toddlers (from 2,231 to 2,041 per 10,000), decreased 1.3-fold among children (from 1,979 to 1,564 per 10,000), but remained constant among adolescents (1,193 per 10,000). A decrease of use was mainly observed in the most prevalent types; penicillins with extended spectrum and macrolides. However, also trimethoprim and derivatives were less frequently used, especially among female adolescents (from 163 to 92 per 10,000). Prevalence of beta-lactamase resistant penicillins increased from 2 to 29 per 10,000 among infants and toddlers and from 44 to 77 per 10,000 among children. An increase in nitrofuran derivatives was observed among female children (from 38 to 100 per 10,000) and female adolescents (from 267 to 413 per 10,000). **CONCLUSIONS:** This study provides an extensive overview of trends in antibacterial drug use among children in the Netherlands. An overall decrease of use was observed, while an increase was observed for nitrofuran derivatives and beta-lactamase resistant penicillins.